and felt. In other words it may be critically examined as no other gland can be.

Another feature of the skin is the multiplicity of its constituents. It is most plentifully supplied with sensory nerves, in which any functional or structural change may cause either complete insensibility, or increased sensibility as evidenced by itching, burning or pain. We have then the largest gland of the body with its secreting surface covered only by a thin translucent layer of horn, and the body of the gland itself richly supplied with blood vessels, and with nerves, motor, sensory and vasomotor, and many of the sensory nerves endowed with special receptivities, as locality, touch and pain, and with one very especial receptivity giving rise to itching. Now reflect that the deep or internal aspect of this extensive gland is exposed to influences conveyed to it by the blood current and by its nerves, motor, sensory, and vasomotor, and that its external surface comes in contact with the outer world with its irradiations, atmosphere and other innumerable material contacts, and that to each of these influences it responds in a different way, and that to some of them it responds in a number of different ways. For instance, the stimulus of the lepra bacillus alone gives rise to a long list of symptoms.

Under the broad term "susceptibility" we include all the various ways the skin and its different tissues and organs may react to each of the innumerable causes and influences to which it is exposed. Innumerable contacts pass unnoticed, or are beneficial or are pleasurable, but when the skin or any part of it is so tuned to any ordinary stimulus as to give rise to unusual or disagreeable symptoms instead of the normally unnoticed, or beneficial or pleasurable ones, it is said to be sensitized to that stimulus.

Of late years a great deal has been learned about these sensitizations, and many papers such as the present excellent one by Doctor Templeton have been written on the subject, and although the field is a vast one, it is so important, especially to dermatologists, that any good consideration of it is welcome.

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ALBERT H. ROWE (242 Moss Avenue, Oakland)—That allergy or hypersensitiveness of the skin is the cause of many eczemas and most urticaria as well as angioneurodema has been well emphasized by Doctor Templeton. This fact is accepted by too few physicians largely because of the difficulty in ascertaining the allergic agents active in each case. The cause of contact dermatitis such as that of the face, neck, or arms, from pollens or animal emanations such as those from wool, feathers, silk, or mohair; of the hands from wheat flour; and of the face and neck from orris root in powders or cosmetics, can usually be ascertained by the history and through skin testing. Urticaria and eczema resulting from ingestion of foods, however, are often difficult to diagnose. Certain cases give skin reactions to foods, especially to wheat, milk or eggs, and so solve the problem. However, skin reactions are negative in about 50 per cent of the patients who have food allergy. Many physicians unfortunately have discounted allergy in the etiology of these conditions because of such negative skin tests. Due to this failure of the skin to reveal all sensitizations especially to foods, treatment must frequently be based on history and on the experience of the physician in prescribing the diet for such skin conditions. It is possible through allergic diagnosis to obtain relief for many cases of eczema, urticaria and angioneurodema that have resisted the usual methods of dermatological therapy. The other types of sensitization which Doctor Templeton has described due to dyes, drugs, lacquers and similar substances, are probably the result of a tissue disturbance identical with or closely related to allergy which is as yet poorly understood. Recognition of such causes, however, is most important for the relief of the skin lesions.

ELECTRODIATHERMY—ITS USE IN THE TREATMENT OF BENIGN AND MALIGNANT LESIONS OF THE UTERINE CERVIX

By FRANK M. MIKELS, M. D.
Long Beach

DISCUSSION *by A. V. Pettit, M. D., San Francisco; R. H. Shippey, M. D., Long Beach; Frank W. Lynch, M. D., San Francisco.*

IN the medical and surgical treatment of pathological conditions of the regenerative organs conservatism is becoming the keynote of present-day practice. A new therapeutic measure is invariably met with skepticism and distrust. Archaic medical methods and radical surgical procedures seem to dominate the enthusiasm and judgment of many very eminent and successful practitioners.

The uterine cervix is the portal for the perpetuation and preservation of the species. The integrity and normal function of the uterine cervix is essential to the future welfare of the human race. The time has come when the treatment of this organ should be based upon principles of conservation, aiming at a maintenance of its normalcy in structure and function. This can be adequately accomplished in good part by the use of electrodiathermy in the treatment of many benign and malignant lesions of this portion of the uterus.

Electrodiathermy means the application of a special modality of electricity which induces heat into the tissues of the body. The body is a poor conductor to electricity and because of its resistance to the current an elevation of body temperature results. The modality giving the best results in treatment of the uterine cervix is the D'Arsonval current, a form of high frequency. The D'Arsonval current may be obtained most conveniently from the modern transformer type of high frequency apparatus and from either the stationary or portable model. The latest types have three outlets, for high, medium, and low voltage, and are so constructed that the milliamperage may be regulated for the particular treatment requirements of each lesion.

TECHNIQUE

Various kinds of electrodes are obtainable. The most convenient one has been designed by Dr. T. Howard Plank. It is composed of a wire covered with thick rubber insulation having a connector at one end to fit into the socket of the machine and a vulcanite handle at the other end into which may be inserted pieces of aluminum wire of various sizes, 2 millimeters in diameter and 5 to 20 centimeters long. This aluminum wire is also partially covered with soft rubber tubing, leaving about 1 to 2 centimeters of the end exposed. The end of this wire may be blunt or sharpened as the technique requires.

Other more elaborate sets of electrodes have been invented and made available. These sets are composed of various sized and shaped gold-plated discs and sharp, pointed gold-plated rods which may be screwed to a vulcanite handle attached

to a heavy insulated cord connected with the apparatus.

The single outlet terminal connection is best adapted to obtain the desiccation effect in the tissues. It does this by delivering the current through a short space or between the point of the electrode and the surface of the lesion, or by touching the surface lightly with the point of the electrode. The electrode is connected with a single cord to the high voltage outlet terminal.

The double outlet terminal method is best adapted to obtain the coagulation effect. The electrode which is brought in contact with the lesion is connected with the medium or low voltage terminals of the D'Arsonval current, and the block tin plate or autocondensation pad which is placed in contact with the patient is connected with the common outlet terminal. A piece of block tin four to six inches square attached to a thickly insulated wire is the most convenient size for ordinary service. It must be evenly applied to the skin to avoid burning. Soap lather may be applied to the skin where the block tin is brought in contact in order to eliminate irritation caused by the fine sparking of the current and also to prevent a superficial burn. When the block tin is placed in even contact the perspiration will usually supply sufficient moisture to keep the skin from getting irritated or burning.

Another convenient and practical method of making the connection is to have an assistant interposed in the circuit between the apparatus and the patient. The assistant places the palm of one hand in direct contact with the skin of the patient and holds the aluminum handle connected with the common outlet terminal in the palm of the other hand. The operator then treats the lesion with the electrode which is connected to the medium or low voltage terminal. This method has a special advantage over others because of its psychological effect upon the patient when a general anesthetic is not used. It is very easy to reassure the patient who may be apprehensive of electrical shocks that there will be no intolerable discomfort or danger because all the electricity must pass through the assistant first. This reassurance invariably puts the patient at ease.

The Oudin current may be utilized for desiccation; the D'Arsonval current for coagulation and carbonization. Reactionary hyperemia with or without desiccation, coagulation or carbonization may be obtained by utilizing the D'Arsonval current hooked up with larger plates and electrodes. The degree of temperature can be maintained and controlled when using a properly balanced machine. The approximate degree of temperature may be recorded by use of thermometers specially made for this purpose.

In order to desiccate it is necessary to induce sufficient heat in the tissue to dehydrate the cells. It has been estimated that a temperature 125 degrees F. may be induced in the skin before it becomes desiccated by the dehydration of its cells. A higher temperature is required when the tissue is vascular and an extensive section is being desiccated, coagulated or carbonized.

In order to electrocoagulate vascular tissue it is necessary to induce heat above 148 degrees F. and even to the boiling point of 220 degrees F. by raising the milliamperage, ranging from 200 to 500, according to the efficiency of the apparatus. The moisture evaporates from the tissue and the cells disintegrate, congeal or coagulate. A dense whitish or grayish plaque which is commonly called the coagulum appears. This coagulum adheres to the subjacent normal tissue when the entire lesion has been destroyed by the heat. The lateral extent of the coagulation from the electrode may be taken as a guide of the depth of the coagulum from the point. A study of the coagulation effects has revealed the fact that the direct extent from the point of the electrode is apparently the same as the extent laterally. This coagulum should not be removed mechanically, but should be permitted to slough off in the due course of cellular reconstruction of the subjacent surface. If the coagulum is removed mechanically there is a tendency for the denuded surface to bleed; also the granulation tissue will become redundant and interfere with the epithelization which is essential to the re-establishment of the continuity of the superficial mucous membrane.

To promote epithelial regeneration it is often necessary to desiccate the redundant granulations or to apply mild antiseptic astringents or coagulants such as a 5 to 10 per cent aqueous solution of nitrate of silver or a 10 per cent aqueous solution of copper sulphate until the surface is level or even slightly concave.

Carbonization of the tissue is indicated when the lesion is very large and protrusive and especially when a major portion is to be removed immediately by curetting or teasing. This may be done by elevating and prolonging the degree of heat until the coagulum is charred, turns black and becomes friable. The outer carbonized portion may be easily curetted, leaving a considerable thickness of the underlying coagulated portion adherent to form a substantial coating over the subjacent normal tissue. This remaining coagulum should be left to desquamate.

It is sometimes desirable in treating lesions of the uterine cervix to induce sufficient heat to obtain a bactericidal and a hyperemic effect. It is estimated that a temperature of 106 degrees F. or more is lethal to the gonococci. This thermostatic effect can be obtained with the double outlet terminal method and is very efficacious in combating deep-seated and obstinate infections, such as those which are centralized in the acini of the mucous glands. The hyperemic effect is of value because it promotes the elimination of bacterial detritus.

TREATMENT OF ENDOCERVICITIS

In all cases of endocervicitis, and especially where the mucous glands are infected, a thick tenacious mucopurulent discharge is present. This discharge is so tenacious that it cannot be disintegrated or washed out by detergent douching and collects in a thick coherent gob in the posterior fornix. It is often very difficult to remove the mucopurulent plug until some chemical has

been applied to destroy its cohesiveness. Silver nitrate fused on the end of a wooden applicator applied into the mucous plug will congeal it so that it can be teased off with a sponge forceps. In order to prevent this disgusting discharge from persisting, the remains of the mucopurulent plug in the cervical canal my be subjected to the action of the D'Arsonval current by inserting the sharp point of the aluminum wire 3 to 6 millimeters, and then turning on the current until the milliampermeter registers about 200 and holding it there for two or three minutes. If distress is caused, interrupt the current. One or more treatments may be required. When more than one treatment is required it may be repeated every day. Remarkable improvement is noted after the first treatment. Final cure can only be determined through the usual microscopic examination of several smears of the mucous discharge from the cervical glands over a considerable period of time. One to six treatments have been required to destroy the infection in the series of patients treated by this method.

Corbus has devised a special thermic electrode containing a thermometer which registers indirectly the degree of heat induced in the tissues. The length of each treatment and the number of treatments required by this method to clear up an infection in the mucosa and glands of the cervical canal is long and protracted, nevertheless it is efficacious. This tedious procedure may be superseded by the method just described which is simple, more convenient and of shorter duration.

TREATMENT OF NEOPLASMS

Small tumefaction on the vaginal surface of the uterine cervix are treated by the coagulation method. After the coagulum sloughs off a small crater is left which fills with granulations. These granulations should be prevented from becoming redundant so that the surface may reform smoothly. Often the reconstruction of the surface is so complete that a line of demarcation between the location of the original lesion and adjacent normal tissue cannot be found.

Nabothian cysts which occur in various numbers in the zone about the external os may be very readily removed by puncturing them with the point of the aluminum needle and turning on sufficient current to cause a thorough desiccation of the contents of the cysts and slight coagulation of the capsules. After the coagulum sloughs the small crater fills in very nicely with granulation tissue and soon is resurfaced with normal smooth mucous membrane.

Pedunculated papillomata and mucous polypi presenting in and about the external os are easily removed by coagulating the stem or pedicle and then excising through the coagulated portion and obtaining a complete removal of the tumor and its pedicle. This may be done without causing any hemorrhage. The coagulated stump passes through the usual order of desquamation.

TREATMENT OF EROSIONS

The various types of erosions also respond to this treatment. The technique of treating them is practically the same, but there are variations involving the degree of heat to be inducted into the lesions, the depth and thickness of the coagulum to be formed and the degree of desiccation, coagulation and carbonization to be obtained.

The simple erosions require desiccation or only thin coagulation to obtain cessation of the chronic inflammation and bring about complete restoration of the eroded area to a normal appearance.

The erosions complicated by rhagades or fissures require sufficient depth of coagulation to remove all the serrations. The coagulum should be extended into the cervical canal, up to the edge of the intact and healthy mucosa.

The simple and fissured erosions, complicated with several small nabothian cysts, should be sufficiently coagulated to include all the cystic regions.

In treating the more redundant and extensive follicular and papillary erosions the coagulum must be sufficiently extensive to efface all the papillary formations and the follicles which are formed by the overlapping and invagination of the papillae. These erosions often are dense, firm and indurated; some are soft and spongy.

It is difficult to differentiate between benign inflammatory and possible malignant lesions from their gross appearance. When there is uncertainty a section should be removed by excision for a microscopic examination and the remaining portion of the lesion immediately electrocoagulated. If it is malignant, radium and deep x-ray treatments are indicated.

The technique of removing benign and malignant lesions is identical. Absolute and thorough destruction of all tissue appearing to be abnormal is the only adequate safeguard against subsequent complications. The sharp point of the electrode or wire should be plunged into the lesion deep enough to cause complete coagulation of the lesion even to the muscular structures. If the resultant coagulum is very thick its superficial portion may be carbonized and curetted leaving less of the devitalized tissue to desquamate.

After the coagulum desquamates and the denuded surface heals, no further treatment is required. During the desquamation period it is necessary to use a deodorizing and antiseptic douche two or three times daily. A douche of two quarts of sterile water with five to ten drops of creolin added is usually effective. If there appears in the deeper portion of the cervical canal redundant granulomatous tissue, which tends to stain the cotton swab with blood, a 10 per cent aqueous solution of silver nitrate or copper sulphate may be applied daily. If these methods fail to clear the surface of the canal there is indication for additional desiccation or even coagulation. This should be extensive enough to further destroy all tissue which interferes with a smooth surface reformation.

For a time the caliber of the cervical canal may be considerably enlarged after the coagulum has separated and the surface has been reformed with a new coat of mucous membrane and scar tissue.

Since there is a tendency for leukoplakia to become malignant it is expedient to remove these patches by electrocoagulation and follow with appropriate application of radium.

All the benign lesions including the various types of erosions and even the extensive erosions may be treated in the office by this method without a general or local anesthetic.

If there is a suspicion that any of these lesions are malignant the patient should be sent to the hospital, a tissue section made, and appropriate treatment then instituted. The patient may be placed under a general anesthetic, usually gas augmented with ether. If malignancy is present an adequate application of radium should be made immediately after the lesion has been thoroughly electrocoagulated. This treatment should be followed by a full course of deep x-ray treatments, and repetition of radium applications as indicated.

It is always advisable to do a thorough diagnostic curettage in all cases where malignancy is suspected. The curet should not be used in the uterine canal until the lesion located in and about the cervical canal first has been sectioned for microscopic check-up and thoroughly electrocoagulated. All remaining abnormal cells in the cervical region should be destroyed before the curet is passed over it into the fundal portion of the canal. This order of technique minimizes the danger of transplanting malignant cells from the cervical portion of the canal to the fundal if such transplantation is possible.

CONTRAINDICATIONS

The contraindication for electrodiathermic destruction of abnormal lesions in the cervical region are the same as they would be in any other part of the body. If there is any reason to suspect a luetic condition a Wassermann test should be made. If this is positive the patient should be put on an intensive antiluetic treatment until a negative reaction to the Wassermann test is obtained. There is a tendency for the lesion to be sluggish in its reformation to normal when active lues is present.

Examination of smears taken from the cervical canal and the vaginal discharge should always be made. If the Vincent's spirilla or fusiform bacilli are present this infection should be cleared up with local applications of a 10 per cent copper sulphate solution or neoarsphenamin in glucose solution, augmented with intravenous injections of neoarsphenamin.

TREATMENT DURING PREGNANCY

Some writers intimate that it would be precarious to use electrodiathermy on the cervix of a pregnant uterus. This does not hold true when the electrodiathermy treatment is administered with due care and precaution. Complete destruction of the abnormal lesion in the cervix can be obtained without interfering in any way with the process of gestation. Two precautions are taken in treating a gravid uterus. Do not insert or make contact in the canal with the electrode more than 0.5 cm. beyond the rim of the external os of the cervix, and always apply the indifferent block tin plate to the outer region of the thigh, and when an assistant is interposed in the circuit have her apply the hand to the thigh of the patient. Do not make application of the indifferent or surface electrode over the lower part of the abdomen or pubic region. Obtain an indirect course of current from the point of contact of electrode to the cervix and the outer surface of the body so that the circuit will not pass through the fundus of the uterus. Erosions have been successfully removed and the mucosa of the cervix restored to normal when the fundus has been in various stages of gravidity without interfering in any way with the process of gestation.

A focal infection in or about the uterine cervix is undoubtedly responsible for a great many serious secondary complications, such as endometritis, metritis, parametritis, salpingitis, pyosalpynx, oophoritis, and plebitis in the broad ligament and the lower extremities. Pelvic abscess and peritonitis may all have their inception from an original focus in the cervical mucosa. In addition serious systemic disturbances may be traced to the absorption of the bacterial detritus and toxins from an original focus in the cervix; nor is it beyond the range of probability that remote secondary infections may come from this same source by invasion through the blood stream or lymphatics.

CONCLUSIONS

Electrodiathermic treatment of lesions of the uterine cervix is more efficacious than topical medical applications.

Electrothermic treatments of cervical lesions are more conservative than any of the surgical operations when it is feasible to apply these methods.

Electrodiathermic treatment of lesions of the uterine cervix does not interfere in any way with successful plastic operations for the repair of extensive lacerations, but leaves a clearer and cleaner field for these procedures.

Electrodiathermic methods of treating very persistent and obstinate neisserian infection of the uterine cervical mucosa have proven most efficacious.

Electrodiathermic treatments of cervical erosions and the adjacent inflammatory tissue do not impair the sphincter action of the musculature of the uterine cervix nor interfere with its normal distensibility during parturition.

Electrodiathermy should receive the careful consideration and respectful recognition of all obstetricians and gynecologists who are interested in conserving the function of this regenerative organ, and in preventing the occurrence of cancer of the cervix.

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DISCUSSION

A. V. PETTIT, M. D. (350 Post Street, San Francisco)—In the vast majority of all infections of the female generative organs, the cervix of the uterus is the portal of entry. The infection lies in the depths

of the mucus-secreting glands lining the canal from the vaginal portion to the internal os, the infection diminishing in intensity as the internal os is approached. The pathway of spreading infection from this focus is along the lymph spaces to the parametrium.

Effective treatment of cervical infections in the past has only been possible by destructive procedures such as actual cauterization or the conical enucleation of the gland-bearing area, by sharp dissection. Both of these methods are effective in that the infectious focus is removed.

Diathermy now presents a method by which infection of the cervical glands can be destroyed without also destroying the living cells of the cervix, if the invading organism is the gonococcus. The method is a rational one and depends upon the difference in resistance to heat possessed by the gonococcus and living tissue. The gonococcus is quickly killed by a temperature of 113 degrees F. in vitro and seems vulnerable to lower temperatures in the tissues of the body, while the epithelial tissue cells resist a temperature of 118 degrees F. and connective tissue a much higher temperature. Other frequently invading organisms such as the streptococcus, staphylococcus and colon bacillus resist temperatures as high as the tissues.

In my experience with diathermy, using the inactive mesh terminal encircling the lower abdomen and either the high vaginal or the intracervical active terminals at temperatures of 108 to 116 degrees F. for thirty-minute periods repeated from one to three times weekly, I have been unable to note any improvement in pelvic inflammatory lesions which were due to organisms other than the neisserian. On the other hand, this method of treatment has been very effective in destroying the evidence of gonorrheal infection of the cervix, urethra and internal pelvic organs. The internal effects noted seem to me to be due to the destruction of the infection in the cervix rather than to any deep effect of the heat.

The treatment of other cervical lesions such as erosions, papillary growths, polyps and nabothian cysts by using the destructive or coagulation effects of diathermy are as satisfactory in my hands as the actual cautery, the varying degrees of heat and its penetration possibly more delicately controlled with the high frequency.

In the treatment of cervical malignancy, diathermy of course plays a minor rôle. It is useful in removing fungating masses of carcinomatous tissue in order to facilitate the proper distribution and placement of the radium capsules or needles. In removing sections of suspected tissue for microscopical diagnosis I prefer the knife to the curet, the site being cauterized either with the actual cautery or the high frequency.

Resistance by the medical profession to the adoption of diathermy as a valuable method in the treatment of disease is understandable and, I believe, wholly justifiable in the face of the rather extravagant claims by many of the proponents, and especially in the absence of well-presented case reports and pathological evidence. The use of diathermy marks a distinct advance in our conservative treatment of gonorrhea in the urethra, cervix, and indirectly of the internal pelvic organs. In its destructive effects it is probably superior to the older electric cautery.

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R. H. Shippey, M. D. (Metropolitan Building, Long Beach)—The situation of the uterus renders it an ideal organ for treatment by electrodiathermy. Following the application of coagulation, desiccation or carbonization of the tissues we can always count upon adequate drainage which is a very potent factor in healing.

My experience is very limited in treatment by electrodiathermy. Having observed both satisfactory and unsatisfactory results in its application I have come to the conclusion that there is much good to be derived from its proper application; and I have come to the further conclusion that no one should practice this treatment without having had thorough preparation. This means that a surgeon should at all times know the extent to which it is being applied and whether it is performing its mission, as certainly much harm might otherwise be done. A point brought out by Doctor Mikels is to my mind of great importance, viz., electrodiathermy treatment of uterine cervical lesions in pregnancy. All who do obstetrics will agree, I am sure, that we are confronted a great many times with a pregnant uterus having the cervix either badly torn or eroded. Fortunately we have been in a position to observe some of Doctor Mikels' work in this line, and the results have been most satisfactory. We believe that much good should come from this form of treatment if for no other purpose than to prevent the secondary puerperal infections and complications.

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Frank W. Lynch, M. D. (University of California Hospital, San Francisco)—Diathermy is rapidly establishing a place in the treatment of certain chronic inflammatory conditions of the cervix that are now believed to favor the development of cancer. There is no doubt whatever that as such it has accomplished much good and made unnecessary many mutilating cervical operations upon young women in the child-bearing period.

The method is comparatively new, since until quite recently the instruments have not been without fundamental objections. Consequently it must have a long trial before all of its good and bad points can be properly evaluated. The many good points are elaborated in Doctor Mikels' paper as are many proper restrictions. There can be no objection to Doctor Mikels' conclusions.

Personally I feel that the future will register less objection to the method than to those who will attempt to use it for purposes for which it was not intended, namely, the treatment of acute, or subacute neisserian infections, and of malignant disease.

While I have seen many good results from the treatment I have seen some bad ones, such as pus tubes following cervical treatment presumably of fairly acute cases, and also cervical carcinomas which were activated by the diathermy. Therefore I feel that all who take up the method should be acutely conscious of its restrictions as Doctor Mikels has indicated, and should never treat cervical lesions even remotely suggestive of carcinoma without first making frozen sections. This, of course, would turn many candidates from the office to the operating room for treatment, an objection not vital to my mind.

The difficulties attending the recognition of early carcinoma are many, as I well know, since three times have I learned from laboratory sections that cervical tissue removed by me as benign at operation were in reality early carcinoma. Fortunately no loss of life resulted as the error was corrected in time, but always with unnecessary pain. As a result I always make frozen sections of all remotely suggestive cases before undertaking treatment. This should invariably be done with diathermy cases, since the tissues are destroyed and the laboratory cannot subsequently correct the diagnostic error.

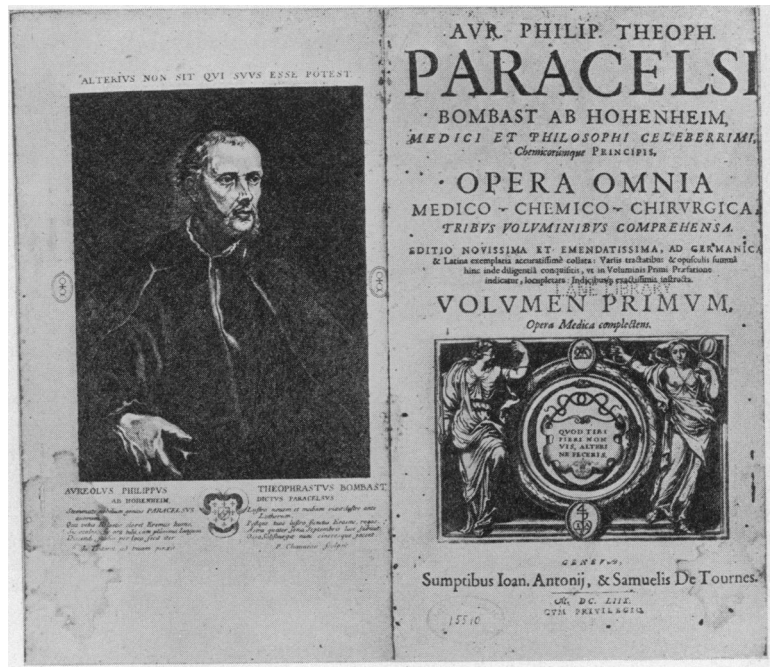
I am fully aware that cervical polyps are not thought to carry malignant areas and as such can be snipped off in the office and the base burned by the cautery or, better, diathermy. Personally, however, I have seen many carcinomatous areas in the bases of such polyps and therefore reserve all cervical polyps for surgical procedures as I do cervical lesions in women past the child-bearing age.

Yet even with the restrictions cited by me I feel there is a fairly large field for gynecological diathermy. I am much interested in Doctor Mikels' treatment of the infected cervix in the pregnant patient. There is no doubt of the threat occurring in labor if the vagina contains many streptococci, even though I would hesitate so to treat it.

DOCTOR MIKELS (closing)—The purpose of this paper is to establish the efficacy of electrodiathermy in the treatment of many important uterine cervical lesions which were heretofore disregarded or radically removed by surgery and to emphasize its limitation so that this method will not fall into disrepute. Doctors Pettit, Shippey and Lynch have recognized the superiority of this method in the conservative treatment of cervical lesions, and by doing so have augmented the professional interest in rational electrotherapy.

As the knowledge of the indications and the limitations of electrodiathermy are acquired this method will find a proper place in our therapeutic armamentarium. Statistical deductions are not essential in substantiating the claims made for its efficacy, since concrete examples of excellent results and the clearing up of impending and apparent secondary complications have so frequently and consistently occurred in properly selected cases.

The alertness and precision in the early recognition of suspected malignancy of the uterine cervix will obviate the unwarranted hazard and the jeopardy to which many women have been subjected. The burden of responsibility rests with the gynecologist. This responsibility should be associated with scientific and conservative action. If it can be so done, then this small contribution will not have been without avail.



THE LURE OF MEDICAL HISTORY

PARACELSUS

By JEAN OLIVER, M. D.

"FOR the two years that I lived intimately with him, he gave himself up both night and day to debauched drunkenness—in fact it was almost impossible to find him two successive hours except completely drunk. . . . He boasted of knowing occult things and pretended to announce in advance the course of events. . . . As to his 'laudanum' he praised its efficacy to the point of affirming without the least hesitation that with this remedy he could raise the dead"—this from his secretary, Oporin.

"He maintained that his sword, which he had received as a present from an executioner in Germany, imprisoned in its handle a familiar genie called Azoth. The sacred gauge of his supernatural power, he kept this sword night and day by his side. Moreover when separated from this talisman, inspiration failed him, his prestige and the fascination that he exerted on the mind of the crowd vanished."

"Often we would see him arrive drunk at the hall where he gave his courses, holding in one hand the famous sword and with the other leaning against a pillar. In this attitude he displayed the brilliance of his wisdom in an improvisation embellished with the coarsest invectives."

These are but a few of the opinions by his contemporaries on the character of Philip Aureolus Theophrastus Bombastus von Hohenheim, called Paracelsus. Hardly the picture of a reformer, and although these opinions may no doubt be discounted on the basis of the antagonism which Paracelsus aroused in the profession of his day, still there remains enough to demand explanation from his supporters. His name in fact has entered into two languages as a term of reproach. Even now one finds in bookshops his works among the "esoteric" philosophies, for he is still a support for the Rosicrucians and other modern devotees of the astrological "sciences," with his talk of sylphs and salamanders, his ens astrale, the influence of the stars "which surround the earth as the shell of an egg and contaminate the air with their poisons," and his presiding Archaeus which "lives within us, the microcosm, and is the dispenser and compositor of all things."

There is of course the obverse of the medal. His attack, though not in the gentlemanly manner to say the least, on the authority-ridden profession of his day was a step which took a courage we can hardly appreciate. He reformed chemistry and introdoced its use into medicine—described zinc and originated the term "reduction" as applied to chemical processes. His conception that the human body too was composed of chemical substances and operated in part at least by chemical procedures was a foreshadowing of the modern physicochemical theory of vital processes. He was indeed an alchemist, but of a different stamp than his predecessors. For he says, "Many have said of alchemy that it is for making gold and silver. But here such is not the aim, but to consider only what virtues and powers lie in medicines." And again—"for the baker is an alchemist when he bakes bread, the vine grower when he makes wine—whoever brings that which occurs in nature to the point which was intended for it by nature, he is an alchemist." And his "arcana," though fantastically termed, are at least a search for